

**DOCKET NO. D-2012-015 CP-1**

**DELAWARE RIVER BASIN COMMISSION**

**Southeastern Pennsylvania  
Groundwater Protected Area**

**PECO Energy Company  
Norristown MGP Remediation Site  
Groundwater Dewatering  
And Groundwater Treatment Plant Discharge  
Norristown Borough, Montgomery County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to two Applications submitted by URS Corporation on behalf of PECO Energy Company (PECO) to the Delaware River Basin Commission (DRBC or Commission) on May 21, 2012 to withdraw, treat, and discharge groundwater captured during dewatering operations necessary for the remediation of impacted subsurface soil at the former PECO Norristown Manufactured Gas Plant (MGP) Site (Application). The Montgomery County Conservation District and Pennsylvania Department of Environmental Protection (PADEP) approved National Pollutant Discharge Elimination System (NPDES) Individual Permit for Stormwater Discharges Associated with Construction Activities Permit No. PAI01461102 on August 15, 2011. PADEP approved the NPDES General Permit for Discharges from Petroleum Product Contaminated Groundwater Remediation Systems Permit No. PAG050089 on April 13, 2012, effective date May 1, 2012.

The Application was reviewed for inclusion of the project in the Comprehensive Plan and approval under Section 3.8 and for a withdrawal permit under Section 10.3 of the *Delaware River Basin Compact*. The Montgomery County Planning Department has been notified of the application for this permit. A public hearing on this project was held by the DRBC on July 11, 2012.

**A. DESCRIPTION**

**1. Purpose.** The purpose of this docket is to approve the proposed 0.288 million gallon per day (mgd) PECO Norristown MGP Site temporary groundwater treatment system and its related discharge, as well as the withdrawal of up to 8.928 million gallons per month (mgm) of groundwater and occasional stormwater collected from the dewatering operations during the

excavation and removal of subsurface MGP residual-impacted soil at the site. Effluent loadings for the PADEP and DRBC are based upon an average discharge flow of 0.144 mgd.

**2. Location.** The soil remediation project is located at the former PECO Norristown MGP site in the Schuylkill River Watershed, in the Borough of Norristown, Montgomery County, Pennsylvania. The project is located in the area mapped as Stockton Formation.

The MGP-impacted groundwater captured during dewatering will be treated with an on-site temporary water treatment system and discharged on-site to the Schuylkill River via proposed outfall No. 001 located at River Mile 92.47 – 23.5 (Delaware River – Schuylkill River) or treated and conveyed to the adjacent Norristown Municipal Wastewater Authority (NMWA) municipal wastewater treatment plant.

The proposed on-site project outfall is located in the Schuylkill River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 6' 34"	75° 20' 21"

All or a portion of the treated effluent from the dewatering operations may be conveyed to the NMWA municipal wastewater treatment plant, which received approvals under Section 3.8 of the Compact by DRBC Docket Nos. D-65-67 CP and D-85-48 CP on September 13, 1965 and September 24, 1985, respectively. The PADEP issued its most recent NPDES permit No. PA0027421 on June 17, 2010, effective July 1, 2010 for the NMWA treatment facility. The treatment facility has adequate capacity if elected to receive effluent from this project. The docket holder has applied to the NMWA for an Industrial Waste Discharge Permit (IWDP) for the approval to accept the project wastewater. The docket holder will submit an executed IWDP to the DRBC when it becomes available.

**3. Area Served.** The groundwater withdrawals will result from the dewatering activities conducted to excavate and remove MGP residual-impacted soil at the docket holder's former MGP facility as delineated on a site layout plan included in the application. The proposed temporary on-site water treatment system will only serve the docket holder's soil remediation dewatering operations at the site.

For the purpose of defining the Area Served, sections B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

**4. Physical Features.**

**a. Design Criteria.** The docket holder has completed Phase I of the remediation program involving the removal of near-surface unsaturated soils. Phase II of the remediation project targets the removal of subsurface impacted soils some of which are located below the groundwater table and therefore require dewatering measures. The impacted soil to be excavated

covers a footprint area of approximately 65,000 square feet and will extend to an average depth of 25 feet below original grade (approximately 40 feet above mean sea level (MSL)). Depending on the season, the groundwater table elevation at the site ranges from 48 feet above MSL to 52 feet above MSL. Therefore the groundwater table will need to be maintained at approximately 8 to 12 feet below static conditions. The docket holder anticipates that it will take up to 6 months to complete Phase II of the soil remediation activities at the site.

Groundwater seepage into the excavation will be removed with a dewatering system consisting of approximately 14 groundwater collection sumps/interceptor wells installed to a maximum depth of 35 feet, approximately 10 feet into weathered bedrock. Each collection sump will contain a 40 gallon per minute submersible pump connected by pipe to a common header. The collection sumps will be constructed with 24-inch diameter perforated pipe set in clean stone and wrapped in filter fabric. Groundwater flow rates into the sumps and treatment system will vary according to the position and depth of the excavation relative to the groundwater table. Site-specific hydraulic tests indicate that the anticipated seepage rate into the excavation will require dewatering at an anticipated average rate of 130 gallons per minute (gpm) with an allowance for peak dewatering rates up to 200 gpm. As the excavation site is dewatered, it is anticipated that the water removal rates may be less than 100 gpm. Depending on site conditions fewer or more sumps may be required to dewater the excavation area but the overall total withdrawal from all collection sumps/interceptor wells will be controlled to a maximum rate of 200 gpm, the design capacity of the treatment system. The total withdrawal will be metered with a calibrated totalizing flow meter.

PECO proposes to utilize a temporary on-site water treatment system to decontaminate water captured during dewatering and removal of subsurface impacted soil at the former MGP plant site. Treated effluent from the dewatering activities will be discharged to the Schuylkill River or conveyed to the adjacent Norristown Municipal Authority wastewater treatment plant. Based on groundwater samples collected from monitoring wells at the site, groundwater collected by the dewatering system is expected to contain volatile organic compounds (VOCs), naphthalene and polycyclic aromatic hydrocarbons (PAHs), and cyanide.

The docket holder will install and operate a proposed temporary 0.288 mgd water treatment system that is designed to treat the water and produce an effluent that meets the discharge requirements contained in Section A.4.c. Effluent loadings for the water treatment system are based upon a 0.144 mgd discharge and the effluent limits listed in Section A.4.c. below, are based upon these loadings.

**b. Facilities.** The water treatment facilities will consist of one 18,000-gallon weir tank used for the separation of settleable solids and any coal tar product. Water from this tank will be gravity fed to an oil/water separator. Effluent from the oil/water separator will then pass through a 21,000-gallon equalization tank for further separation of settleable solids from the recovered water. A transfer pump will convey the water through particulate filters consisting of a set of 25-micron rated bag filters and 5-micron rated cartridge filters. Following the particulate filters, water will be pumped through a series of organo-clay beds and granular activated carbon beds, which will remove any remaining petroleum and dissolved VOCs and PAHs constituents from the water. The treated water will pass through a 21,000 gallon final equalization-storage

tank prior to being discharged to the Schuylkill or conveyed to the NMWA wastewater treatment plant. The proposed on-site outfall structure (Outfall No. 1) consists of an 8-inch diameter HDPE pipe positioned along the top of the river bank. From this pipe effluent is transitioned to 4 separate 4-inch diameter, roughened and corrugated half-pipes for final discharge to the Schuylkill River.

The soil remediation/excavation area is located within the 100-year floodplain. Additionally, the proposed temporary water treatment system and a portion of the soil remediation/excavation area are located in the floodway. A temporary flood protection wall, comprised of concrete block lined with a PVC geomembrane has been constructed to an approximate elevation of 68 feet above MSL (1 foot above the floodway elevation) to protect the site and treatment equipment from potential flooding. The project in relation to the Commission's floodplain regulations is discussed in the FINDINGS Section of this Docket.

**c. Other.** Excavated soils and iron oxidation and solids captured by the particulate filters will be transported off site for thermal treatment/recycling at a licensed facility in the basin.

Any petroleum liquids collected in the oil/water separator will be periodically drummed and transported to a licensed treatment facility in the basin.

An estimated 180 pounds per day of spent granular activated carbon will be periodically replaced with fresh carbon and regenerated off-site by the vendor or composited with the excavated soil and thermally treated offsite.

Prior to the start of dewatering or excavation activities, the docket holder must provide the Commission with a list of the facilities that will receive the excavated soil and liquid petroleum wastes (See Condition II.h. in the DECISION Section of this Docket).

**d. NPDES Permit / DRBC Docket.** NPDES Permit No. PAG050089 was approved by the PADEP on April 13, 2012, effective May 1, 2012 and includes effluent limitations for the project discharge of 0.144 mgd to surface waters classified by the PADEP as warm water/migratory fishery (WWF/MF). The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

**EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES Permit**

<b>OUTFALL 001</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit

\* DRBC Requirement

**EFFLUENT TABLE A-2: DRBC Parameters Not Included in NPDES Permit**

OUTFALL 001		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids*	1,000 mg/l *	Monthly **

\* DRBC Requirement

\*\* See DECISION Condition II.w.

e. **Cost.** The overall cost of the project is estimated to be \$350,000.

**f. Relationship to the Comprehensive Plan.** The PECO Norristown MGP groundwater withdrawal and treatment plant discharge will be included in the Comprehensive Plan upon approval of this docket. This project is removed from the Comprehensive Plan on July 11, 2014 (the expiration of the docket).

## **B. FINDINGS**

The project is located within the Southeastern Pennsylvania Ground Water Protected Area delineated by the DRBC pursuant to *Compact* Section 10.2. The project is designed to conform to the requirements of the *Water Code*, *Water Quality Regulations* and *Ground Water Protected Area Regulations (GWPAR)* of the DRBC.

Review and analysis of the application pursuant to Section 6.D. of the *GWPAR* result in the following:

1. The withdrawal is consistent with the Commission's Comprehensive Plan and the policies and purposes of these regulations.
2. Opportunities to satisfy water requirements on a timely basis from existing available supplies and facilities have been explored and found infeasible. *Withdrawals are for the purpose of dewatering to facilitate the excavation and removal of saturated subsurface impacted soil. This requirement is not applicable to this project.*
3. The withdrawal, in conjunction with other withdrawals in the applicable ground water basin, should not exceed withdrawal limits of the ground water basin, aquifer or aquifer system.
4. The withdrawal should not significantly impair or reduce the flow of perennial streams in the area.
5. Existing ground and surface water withdrawals should not be adversely impacted, or will be otherwise assured of adequate supplies in accordance with the requirements of Section 10 of the *GWPAR*. *There are no known or reported water supply wells within the projected area of influence from the dewatering withdrawals.*

6. The withdrawal should not cause substantial, permanent adverse impact to the overlying environment.

7. The docket holder adopted and will implement conservation and management programs as required by Section 7 of the *GWPAR*.

The PECO Norristown MGP Remediation Project is located in the Schuylkill Crow Creek subbasin, where total net annual groundwater withdrawal (445 mgd) is less than the withdrawal limit set in Section 6.I of the *GWPAR* (1,543 mgd). The docket holder is requesting a maximum allocation of 8.928 mgd, which would equate to an annual allocation of 107 million gallons. The dewatering project is projected to last no longer than 6 months. Even if it were to last the entire year, the total net annual ground water withdrawal from this subbasin would remain below the withdrawal limits set in Section 6.I of the *GWPAR*. Therefore, the withdrawals from the dewatering project, in conjunction with other withdrawals in the subbasin, are in accordance with the requirements of Section 6.I of the *GWPAR*.

The DRBC estimates that the project withdrawals, used for the purpose of dewatering, result in a consumptive use of 0 percent of the total water withdrawal. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

At the project site, the Schuylkill River has an estimated seven-day low flow with a recurrence interval of ten years of 142 mgd (220 cfs). The ratio of this low flow to the peak design wastewater discharge of 0.288 mgd from the water treatment system is 493 to 1.

The nearest surface water intake of record for public water supply downstream of the project discharge is that of the City of Philadelphia's Queen Lane Facility located on the Schuylkill River approximately 12 river miles downstream.

The remediation project involves the excavation and removal of impacted soil located in the 100-year floodplain. Additionally, a small portion of the soil remediation area and proposed water treatment system is located in the floodway. The water treatment equipment cannot easily be located outside of the floodway due to site constraints. The docket holder has constructed a temporary flood protection wall to an elevation of approximately 1 foot above the floodway elevation to protect the site from incidental flooding. Because of the temporary nature of the project, site limitations, and the existing temporary flood proofing structure, Commission staff recommend approval of the temporary groundwater treatment project in the floodway.

The withdrawal project is located in the Southeastern Pennsylvania Ground Water Protected Area where drought emergency plans are required. Commission staff recommend approval of the project without a drought emergency plan. The basin will benefit from the completion of this remediation project in a timely manner and the required withdrawals for the purpose of dewatering would be substantially less during time of drought.

Laboratory data submitted by the docket holder indicates that the groundwater at the site contains CBOD and ammonia nitrogen in concentrations well below the DRBC effluent limits.

In consideration of the scope of the project and the short duration of the discharge, Commission staff did not recommend the sampling of these parameters. However, the Executive Director has the authority to require sampling based on changes in the project scope, duration or site conditions. (see Condition II.i.) TDS was present in the groundwater samples at concentrations of 500 mg/l and 800 mg/l. Because of the concentration of TDS in relation to the DRBC effluent limit of 1,000 mg/l, the docket holder is required to monitor and report TDS.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

### C. DECISION

I. Effective on the approval date for Docket No. D-2012-015 CP-1 below:

a. The project and the appurtenant facilities described in the Section entitled “Physical features” above shall be added to the Comprehensive Plan. The project will be removed from the Comprehensive Plan upon expiration of this docket.

II. The project as described in the Section A “Physical features” is approved pursuant to Section 3.8 of the *Compact* and is granted this withdrawal permit pursuant to Section 10.3 of the *Compact* and *GWP*AR, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its NPDES Permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

d. The docket holder shall comply with the requirements contained in the Effluent Tables in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Project Review Section. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

e. During any month, the total withdrawal from the dewatering operations as described in this docket shall not exceed 8.928 million gallons. Additionally, the total withdrawal from the dewatering operation shall not exceed the instantaneous rate of 200 gallons per minute.

f. The docket holder shall register with and report to the PADEP all surface and groundwater sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

g. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the PADEP quarterly and shall be available at any time to the Commission if requested by the Executive Director.

h. Prior to the start of dewatering or soil excavation activities at the site, the docket holder shall provide the Commission a listing of the treatment facilities that will be used to treat the excavated soil and any liquid petroleum waste resulting from the remediation project.

i. Laboratory data submitted by the docket holder indicates that the groundwater at the site contains CBOD and ammonia nitrogen in concentrations well below the DRBC effluent limits. In consideration of the scope of the project and the short duration of the discharge, the Commission did not require effluent sampling of CBOD and ammonia nitrogen. The Executive Director has the authority to require sampling based on changes in the project scope, duration or site conditions.

j. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date.

k. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement (“Statement”) signed by the docket holder’s professional engineer for the project. The Statement must (a) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; (b) report the project’s final construction cost as such cost is defined by the project review fee schedule in effect at the time application was made; and (c) indicate the date on which the project was (or is to be) placed in operation. In the event that the final project cost exceeds the estimated cost used by the applicant to calculate the DRBC project review fee, the statement must also include (d) the amount of any outstanding balance owed for DRBC review. Such outstanding balance will equal the difference between the fee paid to the Commission and the fee calculated on the basis of the project’s final cost, using the formula and definition of “project cost” set forth in the DRBC’s project review fee schedule in effect at the time application was made.



l. If the monitoring required herein, or any other data demonstrates that the operation of this project significantly affects or interferes with any domestic or other existing wells or surface water supplies, or if the docket holder receives a complaint by any user of wells or surface water supplies within the zone of influence of the withdrawal, the docket holder shall immediately notify the Executive Director of any complaints by users of wells or surface water supplies within the zone of influence of the withdrawal, and unless excused by the Executive Director, shall investigate such complaints. The docket holder should direct phone call notifications of potential well or surface water interference or complaints of interference to the DRBC Project Review Section at 609-883-9500, extension 216. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the docket holder shall provide written notification to all potentially impacted users of wells or surface water supplies of the docket holder's responsibilities under this condition. Any well or surface water supply which is substantially adversely affected, or rendered dry or otherwise unusable as a result of the docket holder's project withdrawal, shall be repaired, replaced or otherwise mitigated at the expense of the docket holder. A report of investigation and/or mitigation plan prepared by a hydrologist shall be submitted to the Executive Director as soon as practicable. The Executive Director shall make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required. The Executive Director may modify or suspend this approval, or require mitigating measures, pending additional review.

m. The docket holder shall comply with the requirements contained in the Effluent Tables in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Project Review Section. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

n. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

o. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

p. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F until stream temperatures reach 50°F, nor by more than 2°F when stream temperatures are between 50°F and 58°F, nor shall such discharge result in stream temperatures exceeding 58°F.

q. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served section of this docket, which incorporates by reference sections B (Type

of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION section.

r. The docket holder shall make wastewater discharge in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

s. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

t. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

u. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

v. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

w. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

x. This project is removed from the Comprehensive Plan on July 11, 2014.

**BY THE COMMISSION**

**DATE APPROVED: July 11, 2012**

**EXPIRATION DATE: July 11, 2014**